PTO-1449

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

ATTY. DOCKET NO. 22156.NP

SERIAL NO. 10/712,073

LIST OF PRIOR ART CITED BY APPLICANT

APPLICANT

Beth E. Drees, et al

FILING DATE 11/13/2003

GROUP 1641

U.S. PATENT DOCUMENTS

EXAMINER INITIALS		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
/GC/	Al	2002/0028477	07.03.2002	Goueli et al			
	A2	2003/0100028	29.05.2003	Drees et al			
	A3	5,798,447	25.08.1998	Chen			
	A4	6,001,354	14.12.1999	Pot et al			
V	A5	6,348,580	19.02.2002	Fukui et al			
/GC/	A6	6,709,833	23.03.2004	Fukui et al			

FOREIGN PATENT DOCUMENTS

EXAMINER INITIALS		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO
/GC/	Α7	2001-69977	21.03.2001	JP			
/GC/	A8	2000-83664	28.03.2000	JP			
/GC/	Α9	1-168299 A	03.07.1989	JP			

OTHER PRIOR ART (Including Author, Title, Pertinent Pages, Etc.)

	OTHER PRIOR ART (Including Author, Title, Fertiment Fages, Etc.)
A10	Cytoskeletal Regulation, and Membrane Trafficking, Annu Rev Cell Dev Biol, Vol 14, 231-64 (1998)
A11	Leslie, N. et al, Phosphoinositide-Regulated Kinases and Phosphoinositide Phosphatases, <i>Chem Rev</i> , Vol 101, 2365-2380 (2001)
A12	Vanhaesebroeck, B. et al, Phosphoinositide 3-kinases: a conserved family of signal transducers, <i>Trends Biochem Sci</i> , Vol 22, 267-72 (1997)
A13	MacDougall, L. et al, A family of phosphoinositide 3-kinases in Drosophila identifies a new mediator of signal transduction, <i>Current Biology</i> , Vol 5, No. 12, 1404-15 (1995)
A14	Carpenter, C. et al, Phosphoinositide 3-kinase and the regulation of cell growth, <i>Biochimica Biophysica Acta</i> 1288 (1996) M11-M16
A15	Carpenter, C. et al, Phosphoinositide Kinases, Curr Opin Cell Biol, Vol 8, 153-8 (1996)
A16	Datta, K. et al, Akt Is a Direct Target of the Phosphatidylinositol 3-Kinase. Activation by Growth Factors, v-src and v-Ha-ras, In Sf9 and Mammalian Cells, <i>J Biol Chem, Vol</i> 271, 30835-9 (1996)
A17	Franke, T. et al, Pl3K: Downstream AKTion Blocks Apoptosis, Cell, Vol 88, 435-7 (1997)
A18	Franke, T. et al, The Protein Kinase Encoded by the Akt Proto-Oncogene is a Target of the PDGF-Activated Phosphatidylinositol 3-Kinase, Cell, Vol 81, 727-36 (1995)
A19	Czech, M. et al, Signaling Mechanisms that Regulate Glucose Transport, <i>J Biol Chem</i> Vol 274, No. 4, 1865-8 (1999)
A20	and Antilipolysis in Rat Adipocytes, <i>J Biol Chem</i> Vol 269, No. 5, 3568-73 (1994)
A21	Cheatham, B. et al, Phosphatidylinositol 3-Kinase Activation is Required for Insulin Stimulation of pp70 S6 Kinase, DNA Synthesis, and Glucose Transporter Translocation, <i>Mol Cell Biol</i> , Vol 14, 4902-11 (1994)
	A12 A13 A14 A15 A16 A17 A18

Page 2 of 6

PTO-1449

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

ATTY, DOCKET NO. 22156.NP

SERIAL NO. 10/712,073

LIST OF PRIOR ART CITED BY APPLICANT

Beth E. Drees, et al

FILING DATE 11/13/2003

APPLICANT

/GC/_	A22	Tanti, J. et al, Potential Role of Protein Kinase B in Glucose Transporter 4 Translocation in Adipocytes, Endocrinology 138, 2005-10 (1997)
	A23	Hara, K. et al, 1-Phosphatidylinositol 3-kinase activity is required for insulin-stimulated glucose transport but not for RAS activation in CHO cells, <i>Proc Natl Acad Sci USA</i> , Vol 91, 7415-9 (1994)
	A24	Cusi, K. et al, Insulin resistance differentially affects the PI 3-kinaseand MAP kinasemediated signaling in human muscle, <i>J Clin Invest</i> , Vol 105, 311-20 (2000)
	A25	Krook, A. et al, Characterization of Signal Transduction and Glucose Transport in Skeletal Muscle From Type 2 Diabetic Patients, <i>Diabetes</i> , Vol 49, 284-92 (2000)
	A26	Cho, H. et al, Insulin Resistance and a Diabetes Mellitus-like Syndrome in Mice Lacking the Protein Kinase Akt2 (PKBβ), Science, Vol 292, 1728-31 (2001)
	A27	Krook, A. et al, Insulin-Stimulated Akt Kinase Activity is Reduced in Skeletal Muscle From NIDDM Subjects, <i>Diabetes</i> , Vol. 47, 1281-6 (1998)
	A28	Vollenweider, P. et al, An SH2 Domain-Containing 5' Inositolphosphatase Inhibits Insulin-Induced GLUT4 Translocation and Growth Factor-Induced Actin Filament Rearrangement, <i>Mol Cell Biol</i> , Vol 19 No. 2, 1081-91 (1999)
	A29	Roymans, D. et al, Phosphatidylinositol 3-kinases in tumor progression, Eur J Biochem, Vol. 268, 487-9 (2001)
	A30	Activated Protein Kinase Pathway Activation, Mol Cell Biol, Vol 17, No. 8, 4406-18 (1997)
	A31	production, Faseb J, Vol 15, 1953-62 (2001)
	A32	American Cancer Society, Vol 83, 41-7 (1998)
	A33	Klippel, A. et al, Activation of Phosphatidylinositol 3-Kinase is Sufficient for Cell Cycle Entry and Promotes Cellular Changes Characteristic of Oncogenic Transformation, <i>Mol Cell Biol</i> , Vol 18, No. 10, 5699-711 (1998)
	A34	Ma, Yen-Ying et al, PIK3CA as an oncogene in cervical cancer, Oncogene, Vol 19, 2739-44 (2000)
	A35	Shayesteh, L. et al, PIK3CA is implicated as an oncogene in ovarian cancer, Nat Genet, Vol 21, 99-102 (1999)
	A36	Maehama, T. et al, The Tumor Suppressor, PTEN/MMAC1, Dephosphorylates the Lipid Second Messenger, Phosphatidylinositol 3,4,5, Trisphosphate, <i>J Biol Chem</i> , Vol 273, 13375-8 (1998)
	A37	<i>Cell Biol</i> , Vol. 9, 125-8 (1999)
	A38.	Tamura, M. et al, PTEN Interactions with Focal Adhesion Kinase and Suppression of the Extracellular Matrix-dependent Phosphatidylinositol 3-Kinase/Akt Cell Survival Pathway, <i>J Biol Chem</i> , Vol 274, 20693-703 (1999)
	A39	Cantley, L. et al, New insights into tumor suppression: PTEN suppresses tumor formation by restrainin the phosphoinositide 3-kinase/AKT pathway, <i>Proc Natl Acad Sci USA</i> , Vol 96, 4240-5 (1999)
	A40	mutation of the tumor suppressor PTEN/MMAC, Curr Biol, Vol 8, 1195-8 (1998)
	A41	Wen, S.et al, PTEN controls tumor-induced angiogenesis, <i>Proc Natl Acad Sci USA</i> , Vol 98, 4622-7 (2001)
V	A42	Prostate Cancer, Science, Vol 275, 1943-7 (1997)
/GC/	A43	Teng, D. et al, MMAC1/PTEN Mutations in Primary Tumor Specimens and Tumor Cell Lines, Cancer Res, Vol 57, 5221-5 (1997)

Page 3 of 6

PTO-1449

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

ATTY. DOCKET NO. 22156.NP

SERIAL NO. 10/712,073

LIST OF PRIOR ART CITED BY APPLICANT

APPLICANT Beth E. Drees, et al

FILING DATE 11/13/2003

/GC/	A44	Dahia, P. et al, PTEN is inversely correlated with the cell survival factor Akt/PKB and is inactivated via multiple mechanisms in haematological malignacies, <i>Hum Mol Genet</i> , Vol 8, 185-93 (1999)
	A45	Birck, A. et al, Mutation and Allelic Loss of the PTEN/MMAC1 Gene in Primary and Metastatic Melanoma Biopsies, <i>J Invest Dermatol</i> , Vol 114, 277-80 (2000)
	A46	Liaw, D. et al, Germline mutations of the PTEN gene in Cowden disease, an inherited breast and thyroic cancer syndrome, <i>Nature Genetics</i> , Vol 16, 64-7 (1997)
	A47	Marsh, D. et al, Allelic Imbalance, Including Deletion of PTEN/MMAC1, at the Cowden Disease Locus of 10q22-23, in Hamartomas From Patients with Cowden Syndrome and Germline PTEN Mutation, Genes Chromosomes Cancer, Vol 21, 61-9 (1998)
	A48	Marsh, D. et al, Mutation spectrum and genotype-phenotype analyses in Cowden disease and Bannayan-Zonana syndrome, two hamartoma syndromes with germline PTEN mutation, <i>Hum Mol Genet</i> , Vol 7, 507-15 (1998)
	A49	Marsh, D. et al, Germline mutations in PTEN are present in Bannayan-Zonana syndrome, <i>Nat Genet</i> , Vol 16, 333-4 (1997)
	A50	Nakashima, N. et al, The Tumor Suppressor PTEN Negatively Regulates Insulin Signaling in 3T3-L1 Adipocytes, <i>J Biol Chem</i> , Vol 275, <i>12889-95</i> (2000)
	A51	lida, S. et al, Accelerated Decline of Blood Glucose After Intravenous Glucose Injection in a Patient with Cowden Disease Having a Heterozygous Germline Mutation of the PTEN/MMAC1 Gene, <i>Anticancer Research</i> , Vol 20, 1901-4 (2000)
	A52	Butler, M. et al, Specific Inhibition of PTEN Expression Reverses Hyperglycemia in Diabetic Mice, Diabetes, Vol 51, 1028-34 (2002)
	A53	Lioubin, M. et al, p150 <sup>Ship</sup> , a signal transduction molecule with inositol polyphosphate-5-phosphatase activity, <i>Genes &amp; Dev</i> , Vol 10, 1084-95 (1996)
	A54	Damen, J. et al, The 145-kDa protein induced to associate with Shc by multiple cytokines is an inositol tetraphosphate and phosphatidylinositol 3,4,5-trisphosphate 5-phosphatase, <i>Proc Natl Acad Sci USA</i> , Vol. 93, 1689-93 (1996)
	A55	Liu, Q. et al, The SH2-Containing Inositol Polyphosphate 5-Phosphatase, Ship, is Expressed During Hematopoiesis and Spermatogenesis, <i>Blood</i> , Vol 91, 2753-9 (1998)
	A56	Liu, Q. et al, SHIP is a negative regulator of growth factor receptor-mediated PKB/Akt activationa nd myeloid cell survival, Genes & Dev, Vol 13, 786-91 (1999)
	A57	Aman, M. et al, The Inositol Phosphatase SHIP Inhibits Akt/PKB Activation in B Cells, <i>J Biol Chem</i> , Vol 273, 33922-8 (1998)
	A58	Helgason, C. et al, Targeted disruption of ShIP leads to hemopoietic perturbations, lung pathology, and a shortened life span, Genes & Dev, Vol 12, 1610-20 (1998)
	A59	Brauweiler, A. et al, Differential Regulation of B Cell Development, Activation, and Death by the Src Homology 2 Domain-containing 5' Inositol Phosphatase (SHIP), <i>J Exp Med</i> , Vol 191, 1545-54 (2000)
	A60	Antigen Receptor Signaling, J Exp Iwed, Vol 188, 1333-42 (1998)
	A61	Rohrschneider, L. et al, Structure, function, and biology of SHIP proteins, <i>Genes &amp; Dev</i> , Vol 14, 505-20 (2000)
	A62	Brauweiler, A. et al, Bilevel control of B-cell activation by the inositol 5-phosphatase SHIP, Immunological Reviews, Vol 176, 69-74 (2000)
$\bigvee$	A63	Bolland, S. et al, SHIP Modulates Immune Receptor Responses by Regulating Membrane Association Btk, <i>Immunity</i> , Vol 8, 509-16 (1998)
/GC/	A64	Huber, M. et al, The src homology 2-containing inositol phosphatase (SHIP) is the gatekeeper of mast cell degranulation, <i>Proc Natl Acad Sci USA</i> , Vol 95, 11330-5 (1998)

Page 4 of 6

PTO-1449

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

ATTY, DOCKET NO. 22156.NP

SERIAL NO. 10/712,073

LIST OF PRIOR ART CITED BY APPLICANT

APPLICANT Beth E. Drees, et al

FILING DATE 11/13/2003

/GC/	A65	Huber, M. et al, Targeted disruption of SHIP leads to Steel factor-induced degranulation of mast cells, Embo J, Vol 17, 7311-9 (1998)
	A66	Pesesse, X. et al, Identification of a Second SH2-Domain-Containing Protein Closely Related to the Phosphatidylinositol Polyphosphate 5-Phosphatase SHIP, <i>Biochem Biophys Res Commun</i> , Vol 239, 697-700 (1997)
	A67	Ishihara, H. et al, Molecular Cloning of Rat SH2-Containing Inositol Phosphatase 2 (SHIP2) and Its Role in the Regulation of Insulin Signaling, <i>Biochem Biophys Res Commun</i> , Vol 260, 265-72 (1999)
	A68	Muraille, E. et al, Distribution of the Src-homology-2-domain-containing inositol 5-phosphatase SHIP-2 in both non-haemopoietic and haemopoietic cells and possible involvement of SHIP-2 in negative signalling of B-cells, <i>Biochem J</i> , Vol 342 Pt 3, 697-705 (1999)
	A69	Habib, T. et al, Growth Factors and Insulin Stimulate Tyrosine Phosphorylation of the 51C/SHIP2 Protein, <i>J Biol Chem</i> , Vol 273, 18605-9 (1998)
	A70	Clement, S. et al, The lipid phosphatase SHIP2 controls insulin sensitivity, Nature, Vol 409, 92-7 (2001)
	A71	Wada, T. et al, Overexpression of SH2-Containing Inositol Phosphatase 2 Results in Negative Regulation of Insulin-Induced Metabolic Actions in 3T3-L1 Adipocytes via Its 5'-Phosphatase Catalytic Activity, <i>Mol Cell Biol</i> , Vol 21, 1633-46 (2001)
	A72	Taylor, G. et al, Myotubularin, a protein tyrosine phosphatase mutated in myotubular myopathy, dephosphorylates the lipid second messenger, phosphatidylinositol 3-phosphate, <i>Proc Natl Acad Sci USA</i> , Vol 97, 8910-5 (2000)
	A73	Walker, D. et al, Characterization of MTMR3: an inositol lipid 3-phosphatase with novel substrate specificity, <i>Current Biol</i> ogy Vol 11, 1600-5 (2001)
	A74	Maehama, T. et al, A Sensitive Assay for Phosphoinositide Phosphatases, <i>Anal Biochem</i> , Vol 279, 248-50 (2000)
	A75	Taylor, G. et al, Myotubularin, a protein tyrosine phosphatase mutated in myotubular myopathy, dephosphorylates the lipid second messenger, phosphatidylinositol 3-phosphate, <i>PNAS</i> , Vol 97, 8910-8915 (2000)
	A76	Prestwich, G. et al, In situ detection of phospholipid and phosphoinositide metabolism, <i>Advan Enzyme Regul</i> , Vol 42, 19-38 (2002)
	A77	Thomas, C. et al, Generation of phosphatidylinositol-specific antibodies and their characterization, Biochemical Society Trans, Vol 27, 648-52 (1999)
	A78	Yokogawa, T. et al, Evidence that 3'-phosphorylated polyphosphoinositides are generated at the nuclea surface: use of immunostaining technique with monoclonal antibodies specific for PI 3,4-P <sub>2</sub> , FEBS Lett, Vol 473, 222-6 (2000)
	A79	Kavran, J. et al, Specificity and Promiscuity in Phosphoinositide Binding by Pleckstrin Homogoly Domains, <i>J Biol Chem</i> , Vol 273, 30497-508 (1998)
	A80	Ferguson, K. et al, Structure of the High Affinity Complex of Inositol Trisphosphate with a Phospholipase C Pleckstrin Homology Domain, <i>Cell</i> , Vol 83, 1037-46 (1995)
	A81	Rebecchi, M. et al, Pleckstrin Homology Domains: A Common Fold with Diverse Functions, <i>Annu Rev Biophys Biomol Struct</i> , Vol 27, 503-28 (1998)
	A82	Ferguson, K. et al, Structure of the High Affinity Complex of Inositol Trisphosphate with a Phospholipasic Pleckstrin Homology Domain, <i>Cell</i> , Vol 83, 1037-46 (1995)
	A83	Stenmark, H. et al, FYVE-finger proteins – effectors of an inositol lipid, <i>J Cell Science</i> , Vol 112, 4175-83 (1999)
V	A84	Ago, T. et al, The PX Domain as a Novel Phosphoinositide-Binding Module, <i>Biochem Biophys Res Commun</i> , Vol 287, 733-8 (2001)
/GC/	A85	Dowler, S. et al, Identification of pleckstrin-homology-domain-containing proteins with novel phosphoinositide-binding specificities, <i>Biochem J</i> , Vol 351, 19-31 (2000)

Page 5 of 6

PTO-1449

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

ATTY. DOCKET NO. 22156.NP

SERIAL NO. 10/712,073

LIST OF PRIOR ART CITED BY APPLICANT

APPLICANT Beth E. Drees, et al

FILING DATE 11/13/2003

/GC/	A86	Thomas, C. et al, Crystal structure of the phosphatidylinositol 3,4-bisphosphate-binding pleckstrin homology (PH) domain of tandem PH-domain-containing protein 1 (TAPP1): molecular basis of lipid specificity, <i>Biochem J</i> , Vol 358, 287-94 (2001)
	A87	Beaudet, L. et al, Homogeneous Assays for Single-Nucleotide Polymorphism Typing Using AlphaScreen, Genome Res, Vol 11, 600-8 (2001)
	A88	Latif, S. et al, Fluorescence Polarization in Homogeneous Nucleic Acid Analysis II:5'-Nuclease Assay, Genome Res, Vol 11, 436-40 (2001)
	A89	Nielsen, K. et al, Fluorescence Polarization Immunoassay: Detection of Antibody to Brucella abortus, Methods, Vol 22, 71-6 (2000)
	A90	Grys, E. et al, Measurement of proteases in human subgingival dental plaque by fluorescence polarization, <i>Archives Oral Biol</i> , Vol 45, 1101-6 (2000)
	A91	Economic Consequences of Diabetes Mellitus in the U.S. in 1997, American Diabetes Association.  Diabetes Care, Vol 21, 296-309 (1998)
	A92	Maehama, T. et al, PTEN and Myotubularin: Novel Phosphoinositide Phosphatases, <i>Ann Rev Biochem</i> , Vol 70, 247-79 (2001)
	A93	Bolino et al, Charcot-Marie-Tooth type 4B is caused by mutations in the gene encoding myotubularin- related protein-2, <i>Nature Genetics</i> , Vol 25, 17-9 (2000)
	A94	Pope, A. et al, Homogeneous fluorescence readouts for miniaturized high-throughput screening: theory and practice, <i>Drug Discovery Today</i> , Vol 4, 350-362 (1999)
	A95	Seifert, R. et al, PTPRQ is a novel phosphatidylinositol phosphatase that can be expressed as a cytoplasmic protein or as a subcellularly localized receptor-like protein, <i>Exp Cell Res</i> , Vol 287, 374-386 (2003)
	A96	Ono, H. et al, Regulation of Phosphoinositide Metabolism, Akt Phosphorylation, and Glucose Transport by PTEN (Phosphatase and Tensin Homolog Deleted on Chromosome 10) in 3T3-L1 Adipocytes, Molecular Endocrinology, Vol 15, 1411-1422 (2001)
	A97	Mosser, V. et al, PTEN Does Not Modulate GLUT4 Translocation in Rat Adipose Cells under Physiological Conditions, <i>Biochem Biophys Res Commun</i> , Vol 288, 1011-1017 (2001)
	A98	Laporte, J. et al, A gene mutated in X-linked myotubular myopathy defines a new putative tyrosine phosphatase family conserved in yeast, <i>Nature Genetics</i> , Vol. 13, 175-82, (1996)
	A99	Laporte, J. et al, Characterization of the myotubularin dual specificity phosphatase gene family from yeast to human, <i>Human Molecular Genetics</i> , Vol 7, 1703-12 (1998)
	A100	Gray, A. et al, Nonradioactive methods for the assay of phosphoinositide 3-kinases and phosphoinositide phosphatases and selective detection of signaling lipids in cell and tissue extracts, <i>Analytical Biochem</i> , Vol 313, 234-245 (2003)
	A101	Ijuin, T. et al, Identification and Characterization of a Novel Inositol Polyphosphate 5-Phosphatase, J B. Chem, Vol 275, 10870-10875 (2000)
	A102	Klarlund. J. et al, Signaling by Phosphoinositide-3, 4,5-Trisphosphate Through Proteins Containing Pleckstrin and Sec7 Homology Domains, Science, Vol 275, 1927-30 (1997)
	A103	Marion, F. et al. The Gene INPPL 1. Encoding the Lipid Phosphatase SHIP2. Is a Candidate for Type 2
	A104	Bui-Bello, A et al. The ligid phosphatase myotubularin is essential for skeletal muscle maintenance bu
V	A105	Gaudet E et al. A Homogeneous Fluorescence Polarization Assay Adaptable for a Range of Protein
/GC/	A106	liuin T et al. SKIP Negatively Regulates Insulin-Induced GLUT4 Translocation and Membrane Ruffle

Page 6 of 6

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

LIST OF PRIOR ART CITED BY APPLICANT

U.S. DEPARTMENT OF COMMERCE 22156.NP

ATTY. DOCKET NO. 22156.NP

APPLICANT Beth E. Drees, et al

FILING DATE 11/13/2003

GROUP 1641

EXAMINER		/Gary Counts/	06/08/2007	
/GC/	A110	Oganesian, A. et al, Protein tyrosine phospl regulate cell survival and proliferation, <i>Proc</i>	natase RQ is a phosphatidylinositol phosphatase that can Natl Acad Sci USA, Vol 100, 7563-7568 (2003)	
/GC/	A109	Leukemia, Vol 17, 1-8 (2003)	mutation of the SHIP gene in acute myeloid leukemia,	
/GC/	A108	Blondeau, F. et al, Myotubularin, a phosphatase deficient in myotubular myopathy, acts on phosphatidylinositol 3-kinase and phosphatidylinositol 3-phosphate pathway, <i>Hum Mol Genet</i> , Vol 9, 2223-9 (2000)		
/GC/	A101	Miniaturization, Comb Chem High Throughput Screen, Vol 3, 437-44 (2000)		

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication with applicant.